



Escala E5-1000

Optimized, cost-effective performance and scale for all your business needs

The Escala E5-1000, based on the Power10 processor, is a secure 4-socket enterprise midrange server delivering cost-effective performance and scale to meet today's business needs. Its agility and extreme density in an energy-efficient design with best-in-class reliability and resiliency, provide enterprise clients a secure and flexible environment that balances mission-critical and modernization applications to deliver a frictionless hybrid cloud experience.

Increased performance and density to lower TCO

The Escala E5-1000, with its increased core efficiency and dramatically improved system level performance, can provide the same performance in 2 sockets with 48 cores than any Escala E5-800 or Escala E5-900 with 4 sockets could provide. This increased performance can lead to lower costs through server consolidation, lower energy consumption when replacing older Escala servers. Moreover, software licensing costs such as Oracle database costs can be reduced.

Performance improvements are notably provided by:

- More performance per core and more memory bandwidth with the use of differential DIMM (DDIMM)
- Accelerated encryption
- PCIe Gen5 interconnects
- Internal storage exclusively based on Non-Volatile Memory Express (NVMe) devices
- Enhanced version of the power management EnergyScale technology.

Built-in security

With applications and data now residing everywhere, security is an increasingly critical concern for CIOs and IT Managers and has always been a design priority for Power-based architectures, which has allowed them to be ranked highly in terms of end-to-end security.

The Escala E5-1000 introduces unique built-in security features strengthening data protection no matter where they are:

- Transparent memory encryption with no management set up and no performance impact
- 4x more crypto engines in every core compared to Power9
- Support of future cryptographic techniques, such as quantum-safe cryptography and fully homomorphic encryption.

In addition, they benefit from the integrated security management capabilities that are offered by PowerSC.

In-core AI capabilities permit to run inferencing workloads inside the server without any additional hardware required, keeping the data secure within the server.

Industry-leading reliability and availability

Power-based platforms have been leading the industry in infrastructure reliability for the past 13 years¹. True with this reputation, the Escala E5-1000 has been designed to be the most reliable platform in its class with advanced recovery, diagnostic capabilities, and OMI-attached new differential DIMMs that deliver twice the memory reliability and availability compared to industry standard DIMMs. Moreover, the Active Memory Mirroring enhances resiliency by mirroring critical memory that is used by the PowerVM hypervisor so that it can continue operating if a memory failure occurs.

Ready for hybrid cloud deployment

The Escala E5-1000 server embeds PowerVM Enterprise Edition to deliver virtualized environments and to support a frictionless hybrid cloud experience. Workloads can run the AIX and Linux operating systems, including Red Hat OpenShift Container Platform.

¹ ITIC 2021 Global Server Hardware, Server OS Reliability Report, June 2021



Technical specifications

	Escala E5-1000
Form factor	4U
# of sockets	2, 3 or 4
Processor module offerings	12-core – 3.36 to 4.0GHz (max 48 cores) 18-core – 3.2 to 4 GHz (max 72 cores) 24-core – 2.95 to 3.9 GHz (max 96 cores)
Processor Interconnect	32 Gbps
# of memory channels	64 Open Memory Interface (OMI) channels
Max memory bandwidth	1636 GB/s w/ 16, 32, 64GB DDIMMs
# of DDIMMs	64
Max memory capacity	16 TB (post GA*)
Acceleration ports	8 ports @ 25 Gbps
Max PCIe lanes	170 PCIe Gen4 or 64 Gen5 + 64 Gen4
PCIe slots	6 PCIe G4 x16 or G5 x8 2 PCIe G5 x8 3 PCIe G4 x8
Slots for internal storage	General purpose
# internal drives	up to 10 NVMe U.2
internal storage capacity	up to 64 TB
I/O expansion drawer	up to 4
Active Memory Mirroring	Available as an option
Active Memory Expansion (AME)	Available as an option
Elastic CoD	supported
Service Processor	Enterprise BMC (eBMC)
PowerVM™	Enterprise Edition included
AIX rPerf (max)	3.35-4.0 (48): 1596.6 3.2-4.0 (72): 2216.4 2.95-3.9 (96) 2688.9
AIX support	7.2, 7.3 or later
Linux support	RHEL 8.4, 9.0 or later SLES 15 service Pack 3 or later Red Hat OpenShift Container Platform 4.9 or later

*The 256 GB DDIMMs will be available on December 2022

Atos and IBM: a perfect fit

For 30 years, Atos and IBM have built a unique relationship, with IBM leading to a highly productive technological cooperation. This has fundamentally strengthened the AIX ecosystem, by regularly generating innovations, in areas such as scalability, RAS, virtualization and cloud enablement.

For more information: atos.net/escala

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